

**REMARKS**

This is in full and timely response to the Office Action dated October 29, 2004.  
Reexamination in light of the following remarks is respectfully requested.

Claims 1-10, 12-13 and 15-23 are currently pending in this application, with claims 1, 6 and 12 being independent.

*No new matter has been added.*

**Allowable subject matter**

Appreciation is expressed for the indication that claims 1-10 contain allowable subject matter.

**Substitute specification**

A substitute specification, along with a redline copy, has been filed on June 19, 2002.  
*Acknowledgement of receipt and entry of the substitute specification is respectfully requested.*

**Entry of amendment**

This amendment *prima facie* places the case in condition for allowance. Alternatively, it places this case in better condition for appeal. A new search and/or consideration is not required.

Accordingly, entry of this amendment is respectfully requested.

**Prematureness**

Applicant, seeking review of the prematureness of the final rejection within the Final Office Action, respectfully requests reconsideration of the finality of the Office Action for the reasons set forth hereinbelow. See M.P.E.P. §706.07(c).

**Rejection under 35 U.S.C. §112**

Claims 12-23 were rejected under 35 U.S.C. §112, second paragraph.

This rejection is traversed at least for the following reasons.

**Claim 12**

The Office Action contends that “said integrators” found at line 3 of claim 12 lacks an antecedent basis.

While not conceding the propriety of this rejection and in order to advance the prosecution of the above-identified application, claim 12 has been amended.

The Office Action contends that claim 12 omits the functional/structural/connectional interrelationships of elements.

In response to this contention, “Applicant may use functional language, alternative expressions, negative limitations, or any style of expression or format of claim which makes clear the boundaries of the subject matter for which protection is sought.” M.P.E.P. §2173.01.

Nevertheless, while not conceding the propriety of this rejection and in order to advance the prosecution of the above-identified application, the features of claim 14 have been wholly incorporated into claim 12 to form amended claim 12.

Withdrawal of these rejections and allowance of the claims is respectfully requested.

**Claim 15**

The Office Action contends that the recitation of “an effective order of said effective orders” is vague and indefinite.

In response to this contention, claim 12 is drawn to a  $\Delta\Sigma$  modulator for applying  $\Delta\Sigma$  modulation to a multi-bit signal comprising:

an integrator of a plurality of integrators having fraction elimination means for eliminating a fraction remaining in said integrator, and order variation means for varying *effective orders* increasing due to connection with said plurality of said integrators.

Thus, claim 12 establishes an antecedent basis for the term “effective orders”.

Claim 15 is dependent upon claim 12. Within claim 15, said  $\Delta\Sigma$  modulator receives an input, an effective order of *said effective orders* being the number of said integrators participating in the modulation of said input. Thus, the recitation of “an effective order of said effective orders” found within claim 15 is clear. Specifically, an effective order of *said effective orders* being the number of said integrators participating in the modulation of said input.

Withdrawal of this rejection and allowance of the claims is respectfully requested.

#### Claim 16

The Office Action contends that claim 16 lacks clarity.

While not conceding the propriety of this rejection and in order to advance the prosecution of the above-identified application, claim 16 has been amended in the manner suggested by the Examiner. These suggestions are greatly appreciated.

Withdrawal of this rejection and allowance of the claims is respectfully requested.

#### **Rejection under 35 U.S.C. §102**

Claims 12-13 and 15 were rejected under 35 U.S.C. §102 as allegedly being anticipated by U.S. Patent No. 5,248,972 to Karema et al. (Karema).

This rejection is traversed at least for the following reasons.

No prior art has been cited against claim 14. Accordingly, while not conceding the propriety of this rejection and in order to advance the prosecution of the above-identified application, the features of claim 14 have been wholly incorporated into claim 12 to form amended claim 12. Claims 13 and 15 are dependent upon amended claim 12.

Accordingly, if the allowance of amended claim 12 is not forthcoming at the very least and a new grounds of rejection made, then a *new non-final Office Action* is respectfully requested.

Withdrawal of this rejection and allowance of the claims is respectfully requested.

### Conclusion

For the foregoing reasons, all the claims now pending in the present application are allowable, and the present application is in condition for allowance. Accordingly, favorable reexamination and reconsideration of the application in light of the amendments and remarks is courteously solicited.

If the Examiner has any comments or suggestions that could place this application in even better form, the Examiner is requested to telephone Brian K. Dutton, Reg. No. 47,255, at 202-955-8753.

If any fee is required or any overpayment made, the Commissioner is hereby authorized to charge the fee or credit the overpayment to Deposit Account # 18-0013.

Dated: November 22, 2004

Respectfully submitted,

By 

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